



STATE OF ARKANSAS  
MIKE BEEBE  
GOVERNOR

September 5, 2012

Julius Genachowski, Chairman  
Federal Communications Commission  
445 12th Street, S.W.  
Washington, DC 20554

Dear Chairman Genachowski:

As Governor of Arkansas, I respectfully request that the Commission grant Arkansas a waiver of FCC Rule 90.535d (2)(3), "*Modulation and spectrum efficiency requirements*". I ask that the mandatory transition deadline be waived or modified from December 31, 2016, to December 31, 2024, or to an as-yet-to-be determined date, according to certain criteria set forth by the Commission, based on the following grounds:

1. A significant portion of AWIN's infrastructure and 90% of the existing subscriber units do not support the 6.25 kHz channel efficiency;
2. The approaching December 31, 2016, deadline prematurely and artificially shortens the life-cycle of the statewide system; and
3. The cost to upgrade the equipment is prohibitive for the State and the local jurisdictions that depend on AWIN for public-safety communications.

For these reasons, it is crucial for the Commission to grant the State of Arkansas a waiver allowing AWIN to operate in the 12.5 kHz channel efficiency through December 31, 2024. This extension would allow the State and local jurisdictions the opportunity to realize the full use of limited resources.

I also request a swift review, decision, and response from the FCC's Public Safety and Homeland Security Bureau. Our state-agency budget hearings begin shortly, and by this fall, budget decisions will have been made for the coming biennium. Local agencies are currently developing budgets for the coming year and need guidance concerning how this issue will be addressed. A positive decision to waive or extend the FCC 2017 deadline for narrowbanding 700 MHz will allow sufficient time to plan and fund the equipment upgrades and replacements. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Beebe".

Mike Beebe

MB:jb

## PETITION FOR WAIVER AND EXPEDITED ACTION REQUESTED

### In the Matter of:

Effect of FCC Rule 90.535d (2)(3) “*Modulation and spectrum efficiency requirements*” on the future efficiency, budgetary impact, and sustained viability of the Arkansas Wireless Information Network (AWIN).

The State of Arkansas, submits this petition for Expedited Review and Action for Rulemaking to the commission’s rules for the mandatory transition deadline to be waived or modified from December 31, 2016, to a date of December 31, 2024; or a yet to be determined date based upon certain criteria set forth by the commission.

### I. BACKGROUND

Arkansas operates a state of the art, public safety communications network called the Arkansas Wireless Information Network (AWIN). AWIN is a multiple site, trunked communication system based on a digital 700/800 MHz system using the Association of Public Safety Communication Officials (APCO) Project 25 (P-25) standard. AWIN, as a multi-phased program, leveraged existing infrastructure and approximately \$70 million in taxpayer dollars to create a reliable and redundant communication system for Arkansas’s first responders.

Wireless communication networks are a fundamental component in the effective delivery of services to citizens and public safety. Historically, Arkansas agencies built and operated independent radio networks, leading to incompatible equipment and delays in emergency response. In most cases, Arkansas’ radio users could not directly communicate across jurisdictional or organizational boundaries to coordinate emergency response. Disparate radio systems created difficult situations where coordination was imperative, leading to the use of multiple radios in a single vehicle to provide communications. Under these conditions, not only were the radio systems separate, but first responders, including personnel from fire, law enforcement, emergency management, and public health and safety, functioned in communication silos. Interaction with first responders from other jurisdictions or disciplines was limited at best. Planning and coordination prior to an event seldom included personnel outside of individual organizations.

The planning process for the AWIN system involved the assessment of first responder needs, agency situations, and existing technology. The solution that was identified to address the lack of interoperability for first responders included four key objectives: develop and implement an approach to provide a single system for first responders to allow for coordinated emergency response; upgrade existing infrastructure to support the needs of the state’s first responders; incorporate a stand-alone communications project for the Chemical Stockpile Emergency Preparedness Program (CSEPP); and develop three pilot counties to act as ‘proof-of-concept,’ placing all first responders in a county on a single system.

AWIN implementation and integration was performed in two phases: the cutover of tower sites began in February 2005 and completed in March 2006. As the sites cutover to AWIN, the state’s first responders had beneficial use of the system. The next phase included the build-out of an additional microwave system loop and installation of a system controller and began in June 2006. This phase was completed in June 2007 when the system transitioned to operational status.

Since June of 2007 AWIN has grown into a truly multi-jurisdictional, multi-disciplinary system. Over 21,400 subscribers representing 900 public safety agencies use the AWIN network for emergency communications.

Local public safety agencies represent the largest user groups, representing 831 agencies currently on the system. The use of AWIN is split about evenly between disciplines.

Governance oversight is provided by the Arkansas Interoperable Communications Executive Committee (AICEC) consisting of one executive representative from each stakeholder agency. The AICEC oversees the operation, maintenance, planning, design, implementation and financing of AWIN. Membership is reflective of the multi-jurisdictional and multi-disciplinary makeup of the AWIN user community. Current membership, as of January 1, 2012, includes: Arkansas Department of Emergency Management, Arkansas State Police, Arkansas Department of Information Systems, County Judges Association, Emergency Managers Association, City of Little Rock Fire Department, Arkansas Army National Guard, Arkansas Department of Finance and Administration, and the Arkansas Governor's Office.

AWIN has been effectively used to provide interoperable communications for numerous special events and disasters. Arkansas is subjected to natural disasters such as flooding, tornados, ice storms and has the potential for earthquakes. The combination of the Ozark Mountains and adjacent low plains in the Arkansas Delta can cause major flooding. The state is in tornado alley and experiences an average of 39 tornados resulting in four deaths per year. Most recently a New Year's Eve tornado in the Northwest Arkansas town of Cincinnati claimed the lives of four and hospitalized dozens. Arkansas also experiences severe ice storms from time to time which can bring transportation to a standstill and disrupt the distribution of electric power. Finally, Arkansas is one of a handful of states that lie on the New Madrid Fault Line and is therefore potentially subject to significant earthquake threats.

The State of Arkansas has made a significant investment in this mission critical voice network using a mix of 700 MHz and 800 MHz. AWIN is the key element in our statewide emergency communications plan. Arkansas' first responder community has come to rely on AWIN for communications when no other forms of communications are available.

## **II. INFRASTRUCTURE**

The AWIN network is a statewide, public safety system based on the Project 25, Phase I Standard. The network is an ASTRO 25™, IP based, Integrated Voice and Data (IV&D), trunked radio system, operating in the 700/800 MHz frequency bands. The network consists of two interlinked zones with 75 ISR sites and two major simulcast subsystems, with over 480 RF channels.

The system currently supports 21,413 mobile and portable radios which operate on 86 narrowband (12.5 kHz) channels in the 700 MHz public safety band and over three hundred 800MHz channels. Total calls on AWIN average 12.5 million annually. The system provides seamless, wide area coverage across Arkansas and provides 99.86 percent reliability for mobile radios within the coverage area. The current coverage is approximately 93 percent of the state's population. The estimated number of households covered is 970,000.

## **III. PROBLEM**

As is the case with most governmental entities across the country, public safety agencies are facing significant budgetary challenges due to the declining economy. Reductions in revenue have prompted corresponding consolidations and even reductions in service delivery. Maintaining basic government services as well as radio system infrastructure and subscriber equipment (radios) will be major challenges for AWIN for many years to come.

Furthermore, in a system of this size, a conversion to comply with the FCC's 2017 mandate to narrowband 700 MHz requires several years of planning and coordination. This narrowband rule requires that a majority of existing system infrastructure and subscriber handheld units are not just converted, but replaced. The impacts to

AWIN are large, and when the number of interoperability users is also considered, the changes significantly impact AWIN users.

For these reasons, the supporting signatories request that the commission modify the current rules addressing spectrum efficiency as cited above. If the current December 31, 2016 deadline is not extended, it will have a significant negative impact for all members and users of AWIN. Our position has six (6) main points for consideration:

1. The D-Block has been now been allocated to public safety and with that action the rules and deadlines associated with the 700 MHz spectrum should be re-evaluated.
2. 700 MHz frequencies are being allocated effectively and used efficiently in Region 4.
3. Frequency management, including narrowbanding, is best managed regionally by the Regional Planning Committee to best fit the needs of Region 4.
4. TDMA standards were not completed until late 2011 which has resulted in TDMA capable equipment only becoming available recently.
5. Product costs for public safety grade infrastructure and subscribe units are such that the state and the users of the AWIN system find maintaining the system difficult at best.
6. AWIN is a mixed 700/800 MHz system. TDMA conversion will affect more than just 700 MHz capable equipment.
7. Frequencies in the 800 MHz spectrum have been exhausted in Arkansas. Any future growth must take advantage of the available 700 MHz spectrum.

#### **IV. COMMENTARY**

##### **1. The D-Block has been now been allocated to public safety and with that action the rules and deadlines associated with the 700 MHz spectrum should be re-evaluated.**

The Middle Class Tax Relief legislation signed by President Obama in February provided the D-Block to the public safety community. This action significantly impacts the ideas of flexibility and efficient use of the 700 MHz spectrum. The public safety community will see rapid changes in technology over the next few years. It is reasonable to review the existing rules and deadlines that were put in place 10 years ago and to ensure that new rule-making meets the needs of the changing communications environment.

##### **2. 700 MHz frequencies are being allocated effectively and used efficiently in Region 4.**

The Region 4 Regional Planning Committee (RPC) has not yet seen enough requests for 700 MHz narrowband channels to require a migration to TDMA 2 channel equivalency to support any outstanding applications for channels. No channel contention exists in Region 4 at this time thus the immediate need to begin costly upgrades to TDMA 2 channel equivalency by the December 31, 2016 deadline does not exist. While strategic planning for these upgrades has begun within Region 4, the current deadline will place an undue burden on the state.

##### **3. Frequency management, including narrow-banding, is best managed regionally as the RPC best fit the needs of Region 4.**

In lieu of the 2016 TDMA requirement date the State asks that the Region 4 RPC, which represents membership of all qualified applicants for 700 MHz channels, determine if and when a conversion to TDMA 6.25 kHz channels is required. This will allow technology changes to take place as budgets allow and new equipment becomes available, and will also be based on regional need and coordination, not simply on an arbitrary fixed date. We feel this meets with the intent of commission's actions by allowing RPCs optimal flexibility to meet state and local needs. Since the RPCs are closely in tune with local needs and actual channel usage, our view is that this proposal has merit and deserves consideration.

**4. TDMA standards were not completed until late 2011 which has resulted in TDMA capable equipment only becoming available recently.**

We recognize that the Project 25 Phase 2 TDMA standards have been published as well as many of the supporting testing and compliance documents. Some work still remains, however, to complete this documentation. Because of the longer time frame that was necessary to complete this work, strategic planning for a transition has not been feasible. We concur with the State of Arizona's position that "The degree of difficulty for system planners seeking the financial buy-in of key stakeholders not well versed in technical issues is thus raised. This air of uncertainty created by incomplete standards documents makes the high financial hurdle of the 2016 deadline even more difficult."

**5. Product costs for public safety grade infrastructure and subscriber units are such that the state and the users of the AWIN system find maintaining the system in its current state difficult at best.**

The technology for Land Mobile Radio (LMR) systems has advanced significantly during recent years. While there is some infrastructure equipment that has been deployed on the AWIN system in the past few years that can be re-tuned to meet the FCC's requirement, it is a small portion of the existing system. More significantly, most of the subscriber units currently in service were purchased long before the TDMA standards were complete and are not capable of being narrowbanded. The State will be required to make a significant investment in updating infrastructure and replacing subscriber units to become compliant.

Required system software upgrades as a result of advancing technology are driving the requirement for the state and public safety agencies to upgrade hardware at a significant cost. The current upgrade cycle is every one to two years. The AWIN system is very complex technically, and support from the manufacturer is required to keep the system operating properly. The state maintains a system maintenance contract with the manufacturers, but it does not include total system transformations such as moving to Project 25 TDMA 2.

In the past, Arkansas public safety agencies would replace their subscriber units every seven to 10 years. However, in recent years, these units have been built to increasingly higher standards for public safety use. A unit can now be expected to last easily more than 10 years of full time, daily use; part-time users can expect a much longer life cycle.

Like the rest of the nation, Arkansas has faced some hard economic times, resulting in budget cuts at all levels of government. Public safety agencies in Arkansas are typically required to keep equipment until it can no longer be repaired. It has been the experience of AWIN users that the subscriber units last close to 15 years, not the seven to 10 years suggested by the FCC. Because so many of these subscriber units are still in use, the financial impact of narrowbanding will be overwhelming. The current projection is that the cost to narrowband the existing infrastructure is in excess of \$65 million with an additional \$71 million required to replace existing subscriber units. The resulting \$136 million dollar price tag is overly burdensome to the state.

**6. AWIN is a mixed 700/800 MHz system. TDMA conversion will affect more than just the 700 MHz capable equipment.**

TDMA conversion for systems like AWIN that use a combination 700 MHz and 800 MHz require more changes than just to the 700 MHz frequencies. 800 MHz equipment must be transitioned to 700 MHz narrowbanding standards in order to provide critical seamless roaming capability. In recent years AWIN has been careful to procure equipment that can be upgraded to meet FCC narrowband requirements. However, the amount of infrastructure equipment that is narrowband capable is less than 25%. While it may be possible for the TDMA and FDMA protocols to be mixed on a single system, it is critical to note that they may not be used simultaneously on the same talk group, thus limiting seamless roaming across the system. This inability to roam across the system, limits both direct operations and interoperability among users, and defeats the major premise

of having a statewide system. In order to preserve the full capabilities of AWIN, all FDMA components of the system must also be converted to TDMA.

**7. Frequencies in the 800MHz spectrum are highly congested within Arkansas. Finding a usable 800 MHz frequency is near impossible. Any future growth must take advantage of the available 700 MHz spectrum.**

Arkansas is experiencing a shortage of 800 MHz frequencies. It was believed that the recent effort to reband in the 800 MHz spectrum would provide some relief; however, that has not occurred. The Commission's rules governing site adjacency restrict the number of what would appear to be available 800 MHz frequencies. Arkansas's options for avoiding the pending 700 MHz narrowbanding requirement by retuning existing 700 MHz sites with 800 MHz frequencies and deploying new sites in the 800 MHz spectrum are limited at best.



County Judges Association of Arkansas

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**COUNTY JUDGES ASSOCIATION OF ARKANSAS  
RESOLUTION NO. 2012- 01**

BE IT RESOLVED BY THE COUNTY JUDGES ASSOCIATION OF ARKANSAS:

*Whereas*, the Federal Communications Commission (“FCC”) revised rules for the creation of a nationwide interoperable broadband network for public safety to facilitate the availability of broadband services for consumers;

*Whereas*, the FCC rules mandated that all voice operations on 700 MHz must operate at 6.25 KHz bandwidth, commonly known as “narrow-banding”;

*Whereas*, the FCC mandate requires compliance with the aforementioned FCC regulations by December 31, 2016;

*Whereas*, the States of Ohio, Louisiana and other states have called upon the FCC to re-evaluate the mandate;

*Whereas*, there has been no demonstrated need for an additional spectrum in this band;

*Whereas*, there has been no demonstration that the existing channels are too congested;

*Whereas*, there has been no finding or action by Congress directing the FCC to issue the mandate;

*Whereas*, in the alternative an extension of the mandate from December 31, 2016 to December 31, 2024 is necessary;

*Whereas*, in recent years substantial sums of grant funding has been made available by the from various Federal agencies, primarily Homeland Security;

*Whereas*, state and local agencies in Arkansas and nationwide have utilized these recently award grant funds to establish and improve interoperable communications;

*Whereas*, effective life of the equipment recently purchased by grants from Federal agencies, or state or local funds far exceed the scant 7 to 8 year timeframe provided by the December 31, 2016 compliance deadline;

*Whereas*, Manufacturers and state and local agencies that use the equipment have experience and knowledge that the lifespan of the equipment recently purchased for purposes of interoperability is far in excess of the 7 to 8 years provided;

*Whereas*, swift and unnecessary imposition of an arbitrary mandate will render much of the equipment recently purchased to have substantially reduced functionality and utility;

*Whereas*, requiring state and local agencies to swiftly replace valuable equipment recently purchased with federal, state and local taxpayer dollars constitutes an unfunded mandate and waste of taxpayer funds;

*Now Therefore*, the COUNTY JUDGES ASSOCIATION OF ARKANSAS, hereby joins the resolutions of the States of Ohio, Louisiana and other states for the FCC to re-evaluate the actual need for the mandate; and in the alternative to extend the date mandated for compliance to December 31, 2024. A copy of this resolution shall be delivered to the FCC for purposes of being integrated into the public comment for the subject rule and delivered to the Arkansas Congressional delegation.

APPROVED:

A handwritten signature in black ink, appearing to read "Preston Scroggin", is written over a horizontal line.

The Honorable Preston Scroggin, President  
County Judges Association of Arkansas

DATE: June 26, 2012



Randy Pruitt, President AEMA  
130 Grant 74  
Sheridan, AR 72150

September 20, 2012

To Whom It May Concern:

Please receive this letter as our show of concern for the Federal Communications Commission ("FCC") revised rules for the creation of a nationwide interoperable broadband network for public safety to facilitate the availability of broadband services for consumers; the FCC rules mandating that all voice operations on 700 MHz must operate at 6.25 KHz bandwidth and the FCC mandated compliance by December 31, 2016. Therefore we are requesting an extension of the 2016 deadline to be shown as December 31, 2024 as to not create a financial hardship on state and local governments for the purposes of public safety and to allow the FCC adequate time to reevaluate actual need.

Regards,

A handwritten signature in cursive script that reads "Randy Pruitt".

Randy Pruitt

President

Arkansas Emergency Management Association